

eh



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,432	09/05/2003	Chien-Shing Pai	25-12	9250

7590

09/07/2005

Docket Administrator (Room 3J-219)  
Lucent Technologies Inc.  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

EXAMINER
----------

HASHMI, ZIA R

ART UNIT	PAPER NUMBER
----------	--------------

2881

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/656,432

Applicant(s)

PAI ET AL.

Examiner

Zia R. Hashmi

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/5/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under U.S.C. 103(a) as being unpatentable over Prestage (6,157,031), in view of Gossard et al. (5,166,100).
3. With respect to independent claims 1 & 12, and dependent claims 7-10, Prestage discloses a method of fabricating an apparatus comprising: a semiconductor or dielectric wafer having front and back surfaces; a sequence of alternating conductive and dielectric layers formed over said front surface, the sequence including top and middle conductive layers, the middle conductive layer being closer to said wafer than the top conductive layer; and a bottom conductive layer, and wherein the middle conductive layer has a substantially right cylindrical cavity that crosses a width of the middle conductive layer, the top and bottom conductive layers cap respective first and second ends of the cavity (col. 3, lines 9-24, col. 2, lines 50-53 & 65-67, col. 5, lines 60-67, col. 7, lines 52-53, col. 8, lines 20-33, and Fig. 5A); and wherein the top conductive layer includes a hole that forms a first access port to the cavity; and wherein the wafer includes a via through the width of the wafer, the via provides access to the cavity via the back surface of the wafer, and the wafer is substantially thicker than the sequence of layers (col. 6, lines 1-4, col. 9 & 10, claims 19 & 21, parts (a) and (b), and 504 in Fig.

Art Unit: 2881

5A). His apparatus further comprises an ion detector located to detect ions ejected through a via or a passage (col. 1, lines 34-35, col. 6, lines 41-44, col. 7, lines 8-9, and 706 in Fig. 7).

4. With respect to claims 1-6 and 11-20, Prestage fails to disclose method of etching for forming desired geometries on a semiconductor wafer. Gossard et al, however, disclose methods used in etching for making their nanometer optical gratings (col. 3, lines 15-20, col. 4, lines 10-14, col. 5, claims 4-5 & 7-9), which can readily be applied to the instant invention. The point being made here is that the technology of fabricating ion traps and use of etching processes to obtain desired geometries are well known in prior art.

Thus, it would have been obvious to one having ordinary skill at the time of the invention was made to combine methods and apparatus of Prestage and Gossard et al., because Prestage teaches (col. 2, lines 9-10) that smaller instruments are desired in order to reduce mass, volume and power.

### **Conclusion**

5. Cooks et al. disclose (6,762,406) a mass spectrometer having an array of tandem ion traps formed by providing a body of conductive material.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Art Unit: 2881

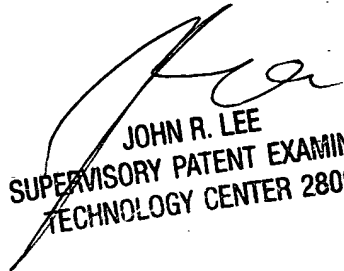
have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473.

The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

August 22, 2005

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800